		Pushing the E	nvelope
		2007 Mathen	•
	Learning	Results: Parameters	for Essential Instruction
Maine Mathematics			
Grade 5			
Activity/Lesson	State	Standards	
			Students understand and use measures of
			elapsed time, temperature, capacity, mass, and
			use measures of mass and weight. Select and
Types of Engines (use appropriate tools and units (mass in grams,
pgs. 11-23)	ME	MA.5.B.1.a	weight in pounds) for these measures.
			Students understand how to find the volume and
Ob a maile to m. / / m. m. n. O. T.			surface area of rectangular prisms. Know how
Chemistry (pgs. 25-	N 4 F	MA 5 0 0 -	to build solids with unit cubes and find their
41)	ME	MA.5.C.3.a	volume.
			Students understand how to find the volume and
Chamistry (ngs. 25			surface area of rectangular prisms. Know how to derive and use the formula (length x width x
Chemistry (pgs. 25-41)	ME	MA.5.C.3.c	height) for the volume of a rectangular prism.
41)	IVIE	IVIA.3.0.3.0	Students use symbols to represent or model
			quantities, patterns, and relationships and use
			symbolic manipulation to evaluate expressions
			and solve equations. Students solve problems
			using symbols, tables, graphs, and verbal rules
			choosing the most effective representation and
			converting among representations. Create and
Physics and Math			evaluate expressions with no more than three
(pgs. 43-63)	ME	MA.5.D.1.a	variables.
(490. 10 00)			
		Pushing the E	nvelope
		2007 Mathen	
	Learning	Results: Parameters	for Essential Instruction
Maine Mathematics			
Grade 6			
Activity/Lesson	State	Standards	
			Students use tables, formulas, diagrams, and
			graphs to analyze relationships between
			quantities. Use tables, formulas and graphs to
Types of Engines (N 4 5		analyze constant difference (additive)
pgs. 11-23)	ME	MA.6.D.3.a	relationships.
			Students use tables, formulas, diagrams, and
			graphs to analyze relationships between
Types of Franks			quantities. Use tables, formulas, and graphs to
Types of Engines (NAT.	MACDAL	analyze constant ratio (multiplicative)
pgs. 11-23)	ME	MA.6.D.3.b	relationships.
			Students use tables, formulas, diagrams, and
			graphs to analyze relationships between
Chamiatry (nee 25			quantities. Use tables, formulas and graphs to
Chemistry (pgs. 25-	NAE	MAGDSG	analyze constant difference (additive)
41)	ME	MA.6.D.3.a	relationships.

			Students use tables, formulas, diagrams, and
			graphs to analyze relationships between
			, ,
Ob a maintum . /m ana . 05			quantities. Use tables, formulas, and graphs to
Chemistry (pgs. 25-	N 45	MA 0 D 0 b	analyze constant ratio (multiplicative)
41)	ME	MA.6.D.3.b	relationships.
			Students understand how to express relative
			quantities as percentages and as decimals and
Physics and Math			fractions. Use ratios to describe relationships
(pgs. 43-63)	ME	MA.6.A.4.a	between quantities.
			Students recognize and solve problems
			involving linear equations and recognize
			examples and non-examples of linear equations.
Physics and Math			Recognize from a table whether a relationship
(pgs. 43-63)	ME	MA.6.D.2.b	has a constant rate of change.
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			Students use tables, formulas, diagrams, and
			graphs to analyze relationships between
			quantities. Use tables, formulas and graphs to
Physics and Math			analyze constant difference (additive)
(pgs. 43-63)	ME	MA.6.D.3.a	relationships.
(23. 10 00)		1111 110101010	Students use tables, formulas, diagrams, and
			graphs to analyze relationships between
			quantities. Use tables, formulas, and graphs to
Physics and Math			analyze constant ratio (multiplicative)
,	ME	MA.6.D.3.b	` ' '
(pgs. 43-63)	ME	IVIA.0.D.3.D	relationships.
			Students use tables, formulas, diagrams, and
Rocket Activity (pgs.			graphs to analyze relationships between
			quantities. Use tables, formulas and graphs to
			analyze constant difference (additive)
69-75)	ME	MA.6.D.3.a	relationships.
			Students use tables, formulas, diagrams, and
			graphs to analyze relationships between
			quantities. Use tables, formulas, and graphs to
Rocket Activity (pgs.			analyze constant ratio (multiplicative)
69-75)	ME	MA.6.D.3.b	relationships.
		Pushing the Er	· ·
	Leewine D	2007 Mathem	
Maina Mathamatica	Learning Re	esuits: Parameters t	for Essential Instruction
Maine Mathematics Grade 7			_
	State	Standards	
Activity/Lesson	State	Stantiarus	Studente understand and use directly
Turner of Francisco (Students understand and use directly
			proportional relationships, y = kx. Recognize
Types of Engines (N 4 5	144 7 5 0	directly proportional relationships by information
pgs. 11-23)	ME	MA.7.D.3.a	in a table, graph, or formula.
			Students understand and use directly
			proportional relationships, y = kx. Recognize
Chemistry (pgs. 25-			directly proportional relationships by information
41)	ME	MA.7.D.3.a	in a table, graph, or formula.

			Students understand that when the ratio of two
			varying quantities is constant, the two quantities
			are in direct proportion. Use ratios to compare
Physics and Math			quantities and use comparison to solve
(pgs. 43-63)	ME	MA.7.A.3.a	problems.
(pgs. 40 00)	IVIL	1717 1.7 1.0.0	Students understand and apply concepts of
			probability to simple events. Predict the
			probability of outcomes of simple experiments
			and verify predictions using the understanding
			that the probability of an occurrence is the ratio
Physics and Math			of the number of actual occurrences to the
(pgs. 43-63)	ME	MA.7.B.2.b	number of possible occurrences.
(pgc. 10 00)	IVIL	140 (.7.5.2.6	Students understand and use directly
			proportional relationships, y = kx. Recognize
Physics and Math			directly proportional relationships by information
(pgs. 43-63)	ME	MA.7.D.3.a	in a table, graph, or formula.
(pgc. 10 00)		1111 1111 11111	Students understand and use directly
			proportional relationships, y = kx. Recognize
Rocket Activity (pgs.			directly proportional relationships by information
69-75)	ME	MA.7.D.3.a	in a table, graph, or formula.
			7.5 1 7
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		2007 Mathem	
	Learning	Results: Parameters for	or Essential Instruction
Maine Mathematics			
Grade 8	_		
Activity/Lesson	State	Standards	
			Students understand and use the basic
			properties of linear relationships, $y = kx + b$.
Physics and Math			Understand that linear relationships are
(pgs. 43-63)	ME	MA.8.D.4.a	characterized by a constant rate of change, k.
		Duching the En	volene
		Pushing the En 2007 Mathem	
	Learning		or Essential Instruction
Maine Mathematics	Learning	ixesuits. I diameters it	Di Essentiai instruction
Grades 9-12			
Activity/Lesson	State	Standards	
/ totivity/ 2000011	Gtato	- Ctanaarao	Students find the surface area and volume of
			three-dimensional objects. Find the volume and
Chemistry (pgs. 25-			surface area of three-dimensional figures
41)	ME	MA.9-12.C.4.a	including cones and spheres.
<u>'</u>			Students find the surface area and volume of
Chemistry (nas 25-			
	ME	MA 9-12 C.4 h	
Chemistry (pgs. 25-			three-dimensional objects. Determine the effect of changes in linear dimensions on the volume and surface area of similar and other three-
41)	ME	MA.9-12.C.4.b	dimensional figures.